Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Action of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control

| Şubstitute for Form 1449A/PTO | | | Complete if Known | | | | |
|------------------------------------|---------------------|---|--|--|--|--|--|
| | | | Application Number | 101749. 738 | | | |
| INFORMAT | TON DISCLOS | URE | Filing Date | December 30,200 | | | |
| STATEMENT BY APPLICANT | | First Named Inventor | Exic Debes | | | | |
| | | | Art Unit | 2 193 | | | |
| (Use as many sheets as necessary.) | | | Examiner Name | Walzahn, David H | | | |
| 1 | of | 15 | Attorney Docket Number | 42915771 | | | |
| | INFORMAT STATEME | INFORMATION DISCLOS STATEMENT BY APPLIC | INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary.) | INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary.) Application Number Filling Date First Named Inventor Art Unit Examiner Name | | | |

JUN 1 7 2009

TRADEL

ILS PATENT DOCUMENTS

| U.S. PATENT DOCUMENTS | | | | | | | | | |
|-----------------------|--------------|-------------------------------------|------------------------------|---|---|--|--|--|--|
| Exam. Initials | Cite No.1 | Document Number Number-Kind Code | Publication Date MM-DD-YYYY | Name of Patententee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant | | | | |
| initials | | (if known) | | | Figures Appear | | | | |
| | AA | US-6,816,961 | 11/9/2004 | Rice et al. | | | | | |
| | AB | US-2003/0131030 | 7/10/2003 | Sebot et al. | | | | | |
| | AC | US-6,745,319 | 6/1/2004 | Balmer et al. | | | | | |
| | AD | US- 2005/0188182 | 8/25/2005 | Hoyle et al. | | | | | |
| - | AE | US-2002/0002666 | 1/3/2002 | Dulong et al. | | | | | |
| | AF | US-2003/0123748 | 7/3/2003 | Sebot et al. | | | | | |
| | AG | US-2001/0016902 | 8/23/2001 | Abdallah et al. | | | | | |
| | AH | US-6,211,892 | 4/3/2001 | Huff et al. | | | | | |
| | Al | US-6,115,812 | 9/5/2000 | Abdallah et al. | | | | | |
| | AJ | US-2003/0231711 | 12/18/2003 | Zhang et al. | - | | | | |
| | AK | US-2002/0172287 | 11/21/2002 | King | | | | | |
| | AL | US-2002/0159529 | 10/31/2002 | Wang et al. | | | | | |
| | AM | US- | | | | | | | |
| | AN | US- | | | | | | | |
| | AO | US- | | | | | | | |
| | AP | US- | | | | | | | |
| | AQ | US- | | ·- · | | | | | |
| | AR | US- | | | | | | | |
| | AS | US- | | | | | | | |
| | AT | US- | | | | | | | |

FOREIGN PATENT DOCUMENTS

| Exam. Initials | Cite No.1 | Foreign Patent Document Country Code ³ -Number ⁴ -KindCode ⁵ | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T° |
|-------------------|--------------|---|--------------------------------|--|---|----|
| | AU | | | | | 1 |
| | AV | | | | | |
| | AW | | | | | |
| | AX | | | | | |
| | AY | | , | | | |
| | AZ | | | | | |
| | BA | | | | | |
| | BB | | | | | |
| | BC | | | | | |
| | BD | | | | | |
| | BE | | - | | | |

| Examiner | Date |
|-----------|------------|
| Signature | Considered |

^{*}Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

Applicant's unique citation designation number (optional). 2See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 5Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6Applicant is to place a check mark here if English language Translation is attached. Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC L'REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /DHM/

| Sachasia | for For | m 1449A/PTQ (Modified) | 200 | | | |
|-----------------------|---|--|--|--|---------------------------|--|
| Substitute | or ror | sheets as nacessary | Attorney Docket No.: Application Number: | | | |
| | | | 42P15771 | 10/749,738 | | |
| | • | · · · · · · · · · · · · · · · · · · · | First Named Inventor: | Examiner: | | |
| Page ² | | • | Eric Debes | Malzahn, David | 4 | |
| C (| N | To . | Filing Date: | Art Unit: | | |
| Confirmation No. | | | December 30, 2003 | 2193 | | |
| | | OTHER ART – NO PATE | ENT LITERATURE DOCUM | IENTS | | |
| Examiner Initials* | Cite No¹ | Include name of the author (in CAPITA item (book, magazine, journal, serial, sy publisher, c | AL LETTERS), title of the article mposium, catalog, etc.), date, paity and/or country where publis | age(s), volume-issue number(s), | Transl ation ⁶ | |
| | | AVARO, Olivier, et al., MPEG-4 Sy | | | | |
| | | woody.imag.fr/MPEG4/syssite/sysp | | | <u> </u> | |
| | | BIERLING, M., Displacement Estin Visual Communications and Image | Processing, May 1998, pp. 9- | <i>maiching</i> , SPIE, Vol. 1001, 42-951. | | |
| | | CHAN, Y.L and W.C. Siu, Adaptive | Multiple-Candidate Hierard | chical Search for Block | | |
| | | Matching Algorithm, IEE Electronic 1639. | es Letters, Vol. 31, No. 19, Se | ept. 14, 1995, pp. 1637- | | |
| | | CHAN, Yui-Lam and Wan-Chi Siu, New Adaptive Pixel Decimation for Block Motion | | | | |
| | Vector Estimation, IEEE Transactions on Circuits and Systems on Video Technology, Vol. 6, | | | | | |
| | | No. 1, Feb. 1996, pp. 113-118. | | | | |
| | | CHEN, Liang-Gee, Wai-Ting Chen, | Yeu-Shen Jehng Tzi-Dar Ch | uieh, An Efficient Parallel | | |
| | | Motion Estimation Algorithm for Di | Digital Image Processing, IEEE Transactions on Circuits 7, Vol. 1, No. 4, Dec. 1991, pp. 378-384. | | | |
| | | and Systems on Video Technology, | | | | |
| | | CHENG, K.W., S.C. Chan, Fast Blo ICASSP96, 1996, pp. 2318ff. | ck Matching Algorithms for . | Motion Estimation, | | |
| | | CORBAL, Jesus, et al., <i>DLP+TLP I</i> 0-7695-1019-1/01, IEEE, 2001, pp. 1 | Processors for the Next Gene. 219-228. | ration of Media Workloads, | | |
| | | DAY, Neil, Ed., Introduction to MP. | EG-7 (v.3.0), International O | rganization for | - | |
| · | | Standardization, ISO/IEC JTC1/SC2 | 9/WG11, Coding of Moving | Pictures and Audio, | | |
| | | #N4032, March 2001, pp. 1-10. | | | | |
| | | DUFAUX, Frederic, et al., Efficient, | | otion Estimation for Video | | |
| | | Coding, 1057-7149/00, IEEE, 2000, | | | | |
| | | ECKART, Stefan, Chad Fogg, ISO/I | | | | |
| | | Digital Video Compression: Algorith | ims and Technologies, 1995, | San Jose, CA., 15 (15) | · | |
| | | EDIRISINGHE, E.A., et al., <i>Shape A</i> 2000, pp. 514-520. | Naaptive Paaaing for MPEG | -4, 0098 3063/00, IEEE, | | |
| | - | FENG, J., Lo, K. T. Mehrpour, H. K | arbowiak, A.E. Adaptive Blo | ck-Matching Motion | | |
| | i | Estimation Algorithm for Video Code 1542-1543. | ing, IEE Electronics Letters, | Vol. 31, No. 18, 1995, pp. | | |
| | | FURHT, Botho, Joshua Greenberg, I | Raymond Westwater Mation | Estimation Algorithm for | | |
| | | Video Compression, Kluwer Academ | | | | |
| Examiner | <u> </u> | | | Date Considered | | |
| Signature | İ | | | | | |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

'Unique citation designation number. 'See attached Kinds of U.S. Patent Documents. 'Enter Office that issued the document, by the twoletter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

| Substitute for Form 1449A/PTO (Modified) | | orm 1449A/PTO (Modified) | Attorney Docket No.: Application Number: | | | |
|--|--------------|---|--|--------------------------|-----------|------------------------------|
| (use | as ma | ny sheets as necessary | 42P15771 | 10/749,73 | | |
| | | | First Named Inventor: | Examiner: | | |
| Page 3 | | | Eric Orbes | Malzahn, D | bavid H | , |
| | | | Filing Date: | Art Unit: | | |
| Confirma | ation | No | December 30, 2003 | 2193 | | |
| | | OTHER ART - NO PATI | ENT LITERATURE DOCUM | MENTS | _ | |
| Examiner Initials* | Cite ·No¹ | item (book, magazine, journal, serial, sy | | page(s), volume-issue ni | | Transl ation ⁶ |
| | | GHANBARI, M., The Cross-Search Communications, Vol. 38, No.7, Ju | - | nation, IEEE Transac | ctions on | _ |
| | - | HE, Zhongli, M.L. Liou, A High Pe | | rithm for Block Mate | hing | |
| | | Motion Estimation, IEEE Transaction | • | | - 1 | |
| | | 7, No. 5, Oct. 1997, pp. 826-828. | | | | |
| | | HE, Zhong-Li, M.L. Liou, Design o | • | - | | |
| | | Consideration, IEEE Transactions of No.5, Oct. 1997, pp. 819-823. | on Circuits and Systems on \ | /ideo Technology, V | ol./, | |
| | | HEISING, G., et al., MoMuSys: MP | EG-4 Version 2 Video Refer | ence Software Packa | 18e. | |
| | | AC098/HHI/WP5.1/DS/P/049/B1, 1 | | | 8-, | |
| | | INTEL CORPORATION, Block-Me | • | • | ~ , | |
| | ļ | SIMD Extensions 2 (SSE2), Vers. 2. | | | | |
| | | INTERNATIONAL ORGANISATI | | | | |
| | | Version 2.0, ISO/IEC JTC1/SC29/V October 2000, 12 pp. | VOIT, Coding of Moving Fi | ctures and Audio, #iv | 13073, | |
| | | INTERNATIONAL ORGANISATI | ON FOR STANDARDISA | ΓΙΟΝ, New MPEG-4 | Profiles | |
| | | Under Consideration, ISO/IEC JTC | | | - | |
| | | #N3932, January 2001, pp. 1-35. | ······································ | | | |
| | | JAIN, J., A. Jain, Displacement Med Coding, IEEE Transactions on Com | | | | |
| | | JU, John CH., et al., A Fast Rate-O | | | | |
| | | Video Coding, 1051-8215/99, IEEE | , 1999, pp. 994-1002. | | | |
| | | JUNG, Hae Mook, Duch Dong Hwa | | | | |
| | | Algorithm for Efficient Motion Estin 1996, pp. 171-174. | nation, International Picture | Coding Symposium, | PCS96, | |
| | | KAPPAGANTULA, S., K.R. Rao, / | | | n, IEEE | |
| | | Transactions on Communications, 3 | 3(9), Sept. 1985, pp. 1011-1 | | | |
| Examiner | | | | Date Considered | | |
| Signature | | <u> </u> | | | | |

'Unique citation designation number. 'See attached Kinds of U.S. Patent Documents. 'Enter Office that issued the document, by the two-letter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

| | | | | | | | |
|--|---|---|---|-------------------------|---------------------------------|------------------------------|--|
| Substitute for Form 1449A/PTO (Modified) (use as many sheets as necessary) | | | Attorney Docket No.: | | Application Number: 101749, 738 | | |
| | | • | First Named Inventor: | Examiner: | | | |
| Page 4 | | • | Exic Oches | Malzahn, | David H. | | |
| | | . . | Filing Date: | Art Unit: | | | |
| Confirma | ation I | NO | December 30, 2003 | 2193 | | | |
| | | OTHER ART - NO PAT | ENT LITERATURE DOCU | MENTS | | | |
| Examiner Initials* | Cite No¹ | Include name of the author (in CAPIT, item (book, magazine, journal, serial, spublisher, c | AL LETTERS), title of the article emposium, catalog, etc.), date, pairty and/or country where publ | page(s), volume-issue i | title of the number(s), | Transl ation ⁶ | |
| | | KIM, Joon-Seek, Rae-Hong Park, A Integral Projections, IEEE Journal 1992, pp. 968-971. | | | | | |
| | | KIM, Michelle, Ed., MPEG-4 Systems, International Organization for Standardization, ISO/IEC JTC1/SC29/WG11, Coding of Moving Pictures and Audio, #N3383, June 2000, pp. 1-19. | | | | | |
| | KNEIP, Johannes, et al., Applying and Implementing the MPEG-4 Multimedia Standard, 0272-1732/99, IEEE, 1999, pp. 64-74. | | | | | | |
| | | KNEIP, J. (Johannes), et al., The MPE | _ | | | | |
| | | | ystems (SIPS98), 8-10 Oct. 1998, pp. 43-52, A-1, A-2. | | | | |
| | | KOGA, J., et al., Motion Compensa | • | • | | | |
| | | Proceedings of the National Telecor | | | | | |
| | | KOENEN, Rob, Ed., Overview of the | | | | | |
| | | Standardization, ISO/IEC JTC1/SC | 29/WG11, Coding of Movin | g Pictures and Audio | 0, | | |
| | | #N4030, March 2001, pp. 1-69. | Analysis and VI CI Analysis | Aurea for MDEC 4 14 | f - 4' | | |
| | , | KUHN, P., Algorithms, Complexity Estimation, 1999 Kluwer Academic | | | | | |
| | | 119-121, 147-167, and 189-204. | 1 donishers, Doston, pp. cov | CI-VI, 13, 17-39, 107 | -109, | | |
| · | | KUHN, P., Stechele W., Complexity | Analysis of the Emerging N | 1PEG-4 Standard as | a Basis | | |
| | | for VLSI Implementation, vol. SPIE | 3309 Visual Communicatio | ns and Image Proces | ssing, | | |
| | | San Jose, Jan.1998, pp. 498-509. | | | | | |
| | | LEE, Liang-Wei, Jhing-Fa Wang, Ja Search-Window Adjustment and Inte | iu-Yien Lee, Jung-Dar Shie | , Dynamic | , | | |
| | | Transactions on circuits and systems | | | | | |
| | | 87. | | | Pp. 03- | | |
| Examiner Signature | | | | Date Considered | | | |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

'Unique citation designation number. 'See attached Kinds of U.S. Patent Documents. 'Enter Office that issued the document, by the two-letter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

| | | m 1449A/PTO (Modified) sheets as sees saryle (a. | Attorney Docket No.: | Application Number: 10/749,738 | | | |
|--|-------------|--|--|--------------------------------|-----------|---------------------|--|
| Page · | | | First Named Inventor: Evic Octoes : | Examiner: Malzahn, | David | Н. | |
| Confirma | ition N | lo | Filing Date: December 30, 2003 | Art Unit: 2193 | | | |
| | | OTHER ART - NO PATI | ENT LITERATURE DOCUM | ENTS | | | |
| Examiner Initials* | Cite No¹ | Include name of the author (in CAPI item (book, magazine, journal, serial, publisher, | | age(s), volume-issue n | | Tra nsla tion | |
| | | LEE, W., Y. Kim, R.J. Gove, C.J. R IEEE Multimedia, Vol. 1, No. 4, 19 | | egrating Video and A | Audio, | | |
| | | LEE, Xiaobing, Ya-Qin Zhang, A F Coding Using Block-Feature Match Technology, Vol. 6, No. 6, Dec. 199 | ast Hierarchical Motion-Con ling, IEEE Transactions on Ci | | | | |
| | | LENGWEHASATIT, Krisda, et al., Estimation, SPIE 3309 VCIP Visua Jan. 1998, pp. 66-79. | l Communications and Image | processing, San Jose | e, CA, | | |
| LI, R., B. Zeng, M.L. Liu, A New Three-Step Search Algorithm for Block Motion Estimati IEEE Transactions on Circuits and Systems on Video Technology, Vol. 4, No. 4, Aug. 199 pp. 438-442. | | | | g. 1994, | | | |
| | | LI, W., E. Salari, Successive Elimin Processing, Vol. 4, Jan. 1995, pp. 10 | <u>-</u> | stimation, IEEE Trai | ns. Image | | |
| | | LIANG, Jie, et al., Region-Based Vi IEEE, 1997, p. 449. | | Zero-Trees, 1068-03 | 14/97, | | |
| | | LIU, B., A. Zaccarin, New Fast Algorithms for the Estimation of Block Motion Vectors, IEEE Transactions on Circuits and Systems on Video Technology, Vol.3, No.2, April 1993, pp. 148-157. | | | | | |
| | | LIU, Lurng-Kuo, Ephraim Feig, A Based Motion Estimation in Video (Video Technology, Vol. 6, No. 4, A | Coding, IEEE Transactions or | | | | |
| | | MO, Hyeon-Cheol, et al., A High-Sp Hardware Accelerator, 0-7803-668 | peed Pattern Decoder in MPL | | | | |
| | | MOSCHETTI, F., et al., About Mac Proc. of 2001 IEEE Int'l. Conf. on N 2001, 4 pp. | roblock Subsampling for Moi | ion Estimation on IA | | | |
| | | MOSCHETTI, F., et al., A Fast Bloc IEEE #0-7803-5482-6/99, pp. IV-32 | | ssors Using Subsamp | pling, | | |
| | | NAM, Kwon Moon, Joon-Seek Kim Motion Vector Estimation Algorithm Systems on Video Technology, Vol | n, Rae-Hong Park, Young Ser In Using Mean Pyramid, IEEE | Transactions on Cir | | | |
| Examiner Signature | | | AND THE COLUMN TO THE COLUMN T | Date Considered | | | |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

^{&#}x27;Unique citation designation number. 'See attached Kinds of U.S. Patent Documents. 'Enter Office that issued the document, by the twoletter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

| | | | · | | |
|---|---------|--|--|---------------------------------|------------------------------|
| Substitute (use | for For | m 1449A/PTO (Modified) sheets as necessar (C) | Attorney Docket No.: 42 P15771 | Application Number: 10/749, 738 | |
| Page 6 | | | First Named Inventor. | Examiner: Malzahn, David | Н. |
| Confirmation No | | | Filing Date: December, 30,2083 | Art Unit: 2193 | |
| | | OTHER ART – NO PATE | ENT LITERATURE DOCUME | NTS | , |
| Examiner Cite Include name of the author (in CAPITA item (book, magazine, journal, serial, sy publisher, ci | | | AL LETTERS), title of the article (wmposium, catalog, etc.), date, pagity and/or country where publish | e(s), volume-issue number(s), | Trans lation ⁶ |
| | | NETRAVALI, A., B. Haskell, Digit Plenum, 1988, pp. cover-xv, 334-34 | 0, 537-542, and 354-355. | | |
| | | PIRSCH, Peter, Nicolas Demassieus Compression - A Survey, Proceeding | gs of the IEEE, Vol. 83, No. 2, | Feb. 1995, pp. 220-246. | |
| | | PO, Lai-Man, Wing-Chung Ma. A N Blockmatching, IEEE Transactions of No. 3, Jun. 1996, pp. 313-317. | | | |
| | | PURI, A., H.M. Hang, D.L. Schillin Compensated Coding, Proc. IEEE IC | CASSP, 1987, pp. 2.4.1-25.4.4 | • | |
| | | RAGSDALE, Gary L., et al, Relation Perceived Quality for Digital Video Technical Information Bulletin 99-2 | Over ATM, National Commun | | |
| | | RAMKISHOR, K., et al., Real Time ARM7TDMI, Proc. of 2001 Int'l. Sy Processing, May 2-4, 2001, pp. 522- | mposium on Intelligent Multin 526. | nedia, Video and Speech | |
| · | | SHI, Y.Q., X. Xia, A Thresholding M Transactions on Circuits and System 437-440. | ns on Video Technology, Vol. | 7, No. 2, April 1997, pp. | |
| | | SIKORA, Thomas, MPEG Digital V Electronics Handbook, 1st Ed., McG | raw-Hill Book Co., Ch. 9, pp. | 1-43. | |
| | | SIKORA, Thomas, MPEG-1 and M. Digital Consumer Electronics Handle | book, 1st Ed., McGraw-Hill Bo | ok Co., pp. 1-43. | - |
| | | SIKORA, Thomas, The Structure of Digital Consumer Electronics Handle | oook, 1st Ed., McGraw-Hill Bo | ok Co., pp. 1-16. | |
| Evaminar | 1 | | l r | hata Cancidarad | |

Signature

'Unique citation designation number. 'See attached Kinds of U.S. Patent Documents. 'Enter Office that issued the document, by the two-letter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

| | <u>. </u> | | | | | | |
|--|--|--|--|-----------------------------|---------------------------------|------------------------------|--|
| | | rm 1449A/PTO (Modified) v sheets as necessary) | Attorney Docket No.: 42P15771 | Application Nu 10/749, 7 | Application Number: 10/749, 738 | | |
| | 7 | | First Named Inventor: | Examiner: | | | |
| Page | | | Eric Debes _ | Malzahri | , David | L H. | |
| | | | Filing Date: | Art Unit: | | | |
| Confirma | ation I | NO | Décember 30,200 | 3 2193 | | | |
| | | OTHER ARE NO PATI | ENT LITERATURE DOCU | MENTS | | | |
| Examiner Initials* | Cite No¹ | Include name of the author (in CAPIT, item (book, magazine, journal, serial, sy publisher, c | | page(s), volume-issue r | | Trans lation ⁶ | |
| | | SONG, Byung Cheol, Jong Beom R | a, A Hierarchical Block Ma | tching Algorithm Us | ing | | |
| | | Partial Distortion Criteria, SPIE 33 1998, San Jose, CA, pp. 88-95. | | | | | |
| | | SRINIVASAN, Ram and K.R. Rao, | Predictive Coding Based of | n Efficient Motion | | | |
| | | Estimation, IEEE Transactions on C | | | Com-33. | | |
| | | No. 8, Aug. 1985, pp. 888-896. | • | 3 , | | | |
| | | STOLBERG, HJ., et al., The M-Pi | re MPEG-4 Codec DSP and | l Its Macroblock Eng | gine, 0- | | |
| 7803-548206/99, IEEE, 2000, pp. II-192-II-195. | | | | | | | |
| | | THAM, Jo Yew, et al., Transactions | s Letters: A Novel Unrestric | cted Center-Biased L | Diamond | | |
| | | Search Algorithm for Block Motion | | | | | |
| | | | -Lossless Complexity-Scalable Embedded Compression | | | | |
| | | Algorithm for Cost Reduction in DT | | | | | |
| | | WANG, Chung-Neng, et al., Improv | | | ole | | |
| | | Transform Coding, 0-7803-6685-9/0 | | | | | |
| | | WESTERINK, P. H., et al., Two-Pa | | ate Encoding, IBM J | . Res. | | |
| | • | Develop, Vol. 43, No. 4, July 1999, | | | | | |
| | | WITTENBURG, J.P., et al., HiPAR | | | l Time | | |
| | | Image Processing Applications, (0-7 | | | | | |
| | | XU, Jie-Bin, Lai-man Po, and Chok- | | | | | |
| • | | Algorithm for Fast Block Motion Est Santa Barbara, 1997. PP 610 -6 | timation, IEEE Int. Cont. In | age Processing, ICI | P97, | | |
| | | | | and all Englished | | | |
| | | YU, Fengqi and Alan N. Willson, Jr Motion Estimation, ICASSP97, 199 | | emea rasi Algoriinm | i jor | | |
| | | ZHU, Shan, Kai-Kuang Ma, A New | Diamond Search Algorithm | for Fast Block Matc | hing, | | |
| | | IEEE Transactions on Circuits and S | ystems on Video Technolog | gy, Vol. 9, No. 2, Fe | ь 2000, | | |
| | | pp. 287-290. | | | | | |
| Examiner | | | | Date Considered | | | |
| Signature | | | | | <u> </u> | | |

'Unique citation designation number. 'See attached Kinds of U.S. Patent Documents. 'Enter Office that issued the document, by the two-letter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PTC/SB/08a (08-03)
Approved for use through 07/31/2006, OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| | Application Number | 10/749,738 |
|---|-------------------------|-------------------|
| WITCH TION DIGGLOCKED | Filing Date | December 30, 2003 |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT | First Named Inventor Ex | ric Debes |
| (Not for submission under 37 CFR 1.99) | Art Unit | 2193 |
| (1101 101 000 111 1100) | Examiner Name M | lalzahn, David H. |
| | Attorney Docket Number | 42015771 |

| U.S.PATENTS | | | | | | | Remove | |
|----------------------|------------|-------------------------|---------------------------|---------------------|---|--|--------|--------------------------------|
| Examiner Initial* | Cite No | Patent Number | Kind Code ¹ | Issue Date | Name of Patentee or Applicant of cited Document | Releva | | Lines where les or Relevant |
| | 1 | 501 99 68 | | 1991-05-28 | Wang, et al. | | | |
| | 2 | 5321810 | | 1994-06-14 | Case, et al. | | | |
| | 3 | 5497497 | | 2008-01-23 | Miller, et al. | ÷ | | |
| | 4 | 6381690 | | 2002-04-30 | Lee | | | |
| | 5 | 6223277 | | 2001-04-24 | Karguth | | | |
| If you wish | to ad | d additional U.S. Paten | t citatio | n information pl | ease click the Add button. | | Add | |
| | | | U.S.P | ATENT APPLI | CATION PUBLICATIONS | | Remove | |
| Examiner Initial* | Cite No | Publication Number | Kind Code ¹ | Publication Date | Name of Patentee or Applicant of cited Document | Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear | | |
| | 1 | 20030084082 | | 2003-05-01 | Debes, Eric; et al. | | | |

| INFORMATION DISCLOSURE |
|---|
| |
| STATEMENT BY APPLICANT |
| (Not for submission under 37 CFR 1.99) |

| Application Number | | 10/74 | 9,73 | 8 | | |
|------------------------|------|--------|----------------|-------|---|--|
| Filing Date | | Decemb | <i>yer 3</i> 1 | 0,200 | 3 | |
| First Named Inventor | Eric | Deb | 25 | | | |
| Art Unit | | 2193 | | | | |
| Examiner Name | Mal | zahn | Day | id H. | | |
| Attorney Docket Number | | 42P15 | 771 | | | |

| | | | | | | , | | | | | |
|-----------------------|---|--|---|------------|---------------------|--|----------------------|-----------|-------------|----------|---|
| | 2 | 20020112147 | | 2002-08-15 | | Chennupaty, Srinivas; et al. | | | | | |
| If you wis | h to a | dd additional U.S. Publ | ished Ap | plication | n citation | n information p | please click the Add | butto | n Add | <u>.</u> | |
| | | | · · · · | FOREIG | GN PAT | ENT DOCUM | IENTS | | Remove | | |
| Examiner Initial* | Cite No | Foreign Document Number ³ | Country Kind Code ² j Code ⁴ | | Publication Date | Name of Patentee Applicant of cited Document | or or | where Rel | or Relevant | T5 | |
| | 1 | | | | ÷ | · | | | | | |
| If you wis | h to ac | dd additional Foreign P | atent Do | cument | citation | information pl | ease click the Add | button | · Add | | |
| | | | NON | -PATEN | IT LITE | RATURE DO | CUMENTS | | Remove | | - |
| Examiner Initials* | Cite No Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published. | | | | | | | | T 5 | | |
| | 1 | PHILIPS ELECTRONICS, "TriMedia TM1000 Preliminary Data Book," 1997, 10 pgs | | | | | | | | | |
| | 2 | "MIPS Digital Media Extension," Set Architecture Specification, Web Site - mips.com/MDMXspec.ps, October 21, 1997. 8 pgs | | | | | | | | | |
| , | 3 | HEWLET PACKARD, "64-bit and Multimedia Extensions in the PA-RISC 2.0 Architecture," Microprocessors Precision Architecture, 1997, 18 pgs | | | | | | | | | |
| | 4 | KAWAKAMI, Y., ET AL., "A Single-Chip Digital Signal Processor for Voiceband Applications, "IEEE, 1980 International Solid-State Circuits Conference, pp. 40-41, 1960. | | | | | | | | | |
| | 5 | SUN MICROSYSTEMS, INC., "UltraSPARC Multimedia Capabilities On-Chip Support for Real-Time Video and Advanced Graphics," SPARC Technology Business, September 1994, 8 pgs | | | | | | | | | |
| | | | | | | | | | - | | |

| INFORMATION DISCLOSURE |
|---|
| STATEMENT BY APPLICANT |
| / Net for submission under 37 CEP 4 99) |

| Application Number | | 10/749,738 |
|------------------------|-----|-------------------|
| Filing Date | | December 30, 2003 |
| First Named Inventor | ezi | c Delocs |
| Art Unit | | 2193 |
| Examiner Name | Ma | Izahn, David H. |
| Attorney Docket Number | | 42 P15771 |

| | 6 | CASE, B., "Philips Hopes to Displace DSPs with VLIW, TriMedia Processors Aimed at Future Multimedia Embedded Apps," Microprocessor Report, December 1994, pp. 12-18 | |
|---|----|--|--|
| , | 7 | Gwennap, L., "New PA-RISC Processor Decodes MPEG Video, H"'s PA-7100LC Uses New Instructions to Eliminate Decoder Chip," Microprocessor Report, January, 1994, pp. 16-17 | |
| | 8 | TEXAS INSTRUMENTS, "TMS320C2X User's Guide," 1993, pp 3:2-3:11; 3:28-3:34; 4:1-4:22; 4:41; 4:103; 4:119- J;120; 4:122; 4:150-4:151 | |
| | 9 | INTEL CORPORATION, "i860 TM Microprocessor Family Programmer's Reference Manual," 1992, Chapters 1, 3, 8 and 11 | |
| | 10 | LEE, R. B., "Accelerating Multimedia with Enhanced Microprocessors," IEEE Micro, April 1995, pp. 22-32 | |
| | 11 | INTEL CORPORATION, "Pentium Processor's User's Manual, vol. 3; Architecture and Programming Manual," 1993, Chapters 1, 3, 4, 6, 8, and 18 | |
| , | 12 | MARGULIS, N., "i860 Microprocessor Architecture," McGraw Hill, Inc., 1990, Chapters 6, 7, 8, 10, and 11 | |
| | 13 | INTEL CORPORATION, "Intel i750, i860 TM, i960 Processors and Related Products, 1993, pp. 1-3 | |
| | 14 | MOTOROLA, INC., "Motorola MC88110 Second Generation RISC Microprocessor User's Manual," 1991 പ്രധാ ഉപ്പാട | |
| | 15 | MOTOROLA, INC., "Errata to MC88110 Second Generation RISC Microprocessor User's Manual," 1992, pp. 1-11 | |
| | 16 | MOTOROLA, INC., "MC88110 Programmer's Reference Guide, 1992, pp. 1-4 | |

| INFORMATION | N DISCLOSURE |
|-------------|------------------|
| STATEMENT I | BY APPLICANT |
| / 11 - 1 | do= 27 CED 4 00\ |

| · · · · · · · · · · · · · · · · · · · | |
|---------------------------------------|-------------------|
| Application Number | 10/749 738 |
| Filing Date | December 30, 2003 |
| First Named Inventor | Eric Debes |
| Art Unit | :2193 |
| Examiner Name | Malzahn, David H. |
| Attorney Docket Number | er 42P15771 |

| | 17 | SHIPNES, J., "Graphics Processing with the 88110 RISC Microprocessor," Motorola, Inc. IEEE, No. 0-8186-26455-0/92, 1992, pp. 169-174 | | | | |
|--|---|--|--|--|--|--|
| | 18 | ADVANCED MICRO DEVICES, INC., "AMD-3D Technology Manual," February 1998, pp. 1-58 | | | | |
| | 19 | HANSEN, C., "Architecture of a Broadband Mediaprocessor," Proceeedings of Compcon, IEEE, 1996, pp. 334-340 | | | | |
| | 20 | LEVINTHAL, ET AL., "ChapA SIMD Graphics Processor," Computer Graphics Project, ACM, vol. 18, No. 3, July 1984, pp. 77-81 | | | | |
| ı / | 21 | LEVINTHAL, ET AL., "Parallel Computers for Graphics Applications," Proceedings: Second International Conference on Architectural Support for Programming Languages and Operating Systems, (ASPLOS II), IEEE, 1987, pp. 193-198 | | | | |
| | 22 WANG, ET AL., "A Processor Architecture for 3D Graphics Calculations," Computer Motion, Inc., Goleta, CA, 23 pgs [| | | | | |
| If you wisl | h to a | additional non-patent literature document citation information please click the Add button Add | | | | |
| | | EXAMINER SIGNATURE | | | | |
| Examiner | Examiner Signature Date Considered | | | | | |
| *EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | | | | | | |
| ¹ See Kind Codes of USPTO Patent Documents at <u>www.USPTO.GOV</u> or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached. | | | | | | |

PTO/SB/08a (08-03)

Approved for use through 07/31/2006, OMB 0651-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information untess it contains a valid OMB control number.

| | Application Number | 10749,738 |
|---|------------------------|-------------------|
| INFORMATION DISCLOSURE | Filing Date | Drumber 30, 2003 |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT | First Named Inventor | Eric Debes |
| (Not for submission under 37 CFR 1.99) | Art Unit | 2193 |
| (Not 10) Sabinission ander or or it not) | Examiner Name | Nalzahn, David H. |
| | Attorney Docket Number | 42 915771 |

| | | | | U.S. | PATENTS | Remove |
|----------------------|------------|---------------|---------------------------|------------|---|--|
| Examiner Initial* | Cite No | Patent Number | Kind Code ¹ | Issue Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
| | 1 | 3711692 | | 1973-01-16 | BATCHER | |
| | 2 | 3723715 | | 1973-03-27 | CHEN et al. | · |
| | 3 | 4139899 | | 1979-02-13 | TULPULE et al. | |
| | 4 | 4161784 | | 1979-07-17 | CUSHING et al | |
| | 5 | 4393468 | | 1983-07-12 | NEW " | |
| | 6 | 4418383 | | 1983-11-29 | DOYLE et al. | |
| | 7 | 4490786 | | 1984-12-25 | NAKATANI | |
| | 8 | 4498177 | | 1985-02-05 | LARSON | |

| INFORMATION DISCLOSURE |
|---|
| STATEMENT BY APPLICANT |
| (Not for submission under 37 CFR 1.99) |

| Application Number | 101749 738 |
|----------------------|-------------------|
| Filing Date | December 30,2003 |
| First Named Inventor | Eric Debes |
| Art Unit | 2193 |
| Examiner Name | Malzahn, David H. |
| Attorney Docket Numb | er UN DIGATI |

9 4707800 1987-11-17 MONTRONE et al. 10 4771379 1988-09-13 ANDO et al. 4903228 1990-02-20 GREGOIRE et al. 4989168 12 1991-01-29 KURODA et al. 5081698 1992-01-14 KOHN 5095457 1992-03-10 **JEONG** 15 5168571 1992-12-01 HOOVER et al. 16 5187679 1993-02-16 VASSILIADIS et al. 17 5268995 1993-12-07 DIEFENDORFF et al. 18 5390135 1995-02-14 LEE et al. 5408670 1995-04-18 DAVIES

| INF | ORI | NA. | TIO | N D |)IS | CLOS | JRE |
|-----|-----|-----|-----|-----|-----|-------|-----|
| ST | ATE | ME | NT | BY | AF | PLICA | TNA |
| | _ | | | | | | |

(Not for submission under 37 CFR 1.99)

| Application Number | 101749.738 |
|------------------------|-------------------|
| Filing Date | December 30, 2003 |
| First Named Inventor | Eric Debes |
| Art Unit | 2193 |
| Examiner Name | Malzahn, David H. |
| Attorney Docket Number | |

| | | | | | T |
|---|----|-------------|------------|-----------------|---|
| | 20 | 5423010 | 1995-06-06 | MIZUKAMI | |
| · | 21 | 5426783 | 1995-06-20 | NORRIE et al. | |
| | 22 | 5465374 | 1995-11-07 | DINKJIAN et al. | |
| | 23 | 5487159 | 1996-01-23 | BYERS et al. | |
| | 24 | 5524256 | 1996-06-04 | TURKOWSKI | |
| | 25 | 5579253 | 1996-11-26 | LEE et al. | |
| | 26 | 5594437 | 1997-01-14 | O'MALLEY | |
| | 27 | 5625374 | 1997-04-29 | TURKOWSKI | |
| t | 28 | 5680161 | 1997-10-21 | LEHMAN et al. | |
| , | 29 | 5781457 | 1998-07-14 | COHEN et al. | |
| · | 30 | 5819117 | 1998-10-06 | HANSEN | |

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| <u></u> | · |
|----------------------|-------------------|
| Application Number | 10/749, 738 |
| Filing Date | Oxiember 30, 2003 |
| First Named Inventor | Eric Debes |
| Art Unit | 2193 |
| Examiner Name | Malzahn, David H. |
| Attorney Docket Numb | |

| | 31 | 5822619 | | 1998-10-13 | SIDWELL | | | |
|---|-----------|---------|--|------------|-------------------|--|--|---|
| | 32 | 5838984 | | 1998-11-17 | NGUYEN et al. | | | |
| | 33 | 5909572 | | 1999-06-01 | THAYER et al. | | | · |
| | 34 | 5933650 | | 1999-08-03 | van HOOK et al. | | | |
| | 35 | 6041404 | | 2000-03-21 | ROUSSEL et al. | | | |
| | 36 | 6115812 | | 2000-09-05 | ABDALLAH et al. | | | |
| | 37 | 6192467 | | 2001-02-20 | ABDALLAH et al. | | | |
| i | 38 | 6288723 | | 2001-09-11 | HUFF et al. | | | |
| | 39 | 6484255 | | 2002-11-19 | DULONG | | | |
| | 40 | 6546480 | | 2003-04-08 | MANDAVILLI et al. | | | |
| If you wish to add additional U.S. Patent citation information please click the Add button. | | | | | | | | |
| U.S.PATENT APPLICATION PUBLICATIONS Remove | | | | | | | | |

/David Malzahn/

07/01/2009